SANTA CRUZ BIOTECHNOLOGY, INC.

Macoilin siRNA (h): sc-78626

BACKGROUND

Macoilin, also known as TMEM57 (transmembrane protein 57), is a 664 amino acid multi-pass membrane protein that is expressed in lung, testis, pancreas, spleen, liver, brain, thymus, kidney and muscle tissue. Existing as three alternatively spliced isoforms, human Macoilin is thought to play a role in axonal traffic or signaling events and shares 99% sequence homology with its mouse counterpart, suggesting a conserved function between species. The gene encoding Macoilin maps to chromosome 1, which spans 260 million base pairs, contains over 3,000 genes and comprises nearly 8% of the human genome. Chromosome 1 houses a large number of disease-associated genes, including those that are involved in familial adenomatous polyposis, Stickler syndrome, Parkinsons disease, Gaucher disease, schizophrenia and Usher syndrome. Aberrations in chromosome 1 are found in a variety of cancers, including head and neck cancer, malignant melanoma and multiple myeloma.

REFERENCES

1. Kumada, M., et al. 2002. Entire sequence of a mouse chromosomal segment containing the gene Rhced and a comparative analysis of the homologous human sequence. Gene 299: 165-172.
2. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 610301. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
3. Kuvbachieva, A., et al. 2004. Identification of a novel brain-specific and Reelin-regulated gene that encodes a protein colocalized with synapsin. Eur. J. Neurosci. 20: 603-610.
4. Colland, F., et al. 2004. Functional proteomics mapping of a human signaling pathway. Genome Res. 14: 1324-1332.
5. Weise, A., et al. 2005. New insights into the evolution of chromosome 1. Cytogenet. Genome Res. 108: 217-222.
6. Marzin, Y., et al. 2006. Chromosome 1 abnormalities in multiple myeloma. Anticancer Res. 26: 953-959.

CHROMOSOMAL LOCATION

Genetic locus: TMEM57 (human) mapping to 1p36.11.

PRODUCT

Macoilin siRNA (h) is a pool of 3 target-specific 19-25 nt siRNAs designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Macoilin shRNA Plasmid (h): sc-78626-SH and Macoilin shRNA (h) Lentiviral Particles: sc-78626-V as alternate gene silencing products.

For independent verification of Macoilin (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-78626A, sc-78626B and sc-78626C.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNAses and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

Macoilin siRNA (h) is recommended for the inhibition of Macoilin expression in human cells.

SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10 µM in 66 µl. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Macoilin gene expression knockdown using RT-PCR Primer: Macoilin (h)-PR: sc-78626-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

RESEARCH USE

For research use only, not for use in diagnostic procedures.